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REMARKS

Claim 1 was amended by inclusion of the feature of claim 2.

Claim 3 was amended to change the dependency thereof.

New claims 6 to 8 recite features of claim 3.

New claim 9 is supported in the specification on page 6, line 15 and page 11, lines 32 to 33.

The present claim 1 concerns a high-purity magnesium, wherein Cl, F and S are contained in respective amounts of no more than 0.1 ppm, with a total impurity content of no more than 1 ppm.

Claims 1 to 3 were rejected under 35 USC 103 as being unpatentable over Lam et al. (USP 5,698,158) for the reasons set forth on pages 2 and 3 of the Office Action.

Table 1 in column 8, Lam et al. disclose the following impurities contained in refined magnesium: P: 0.02 ppm, F: 0.01 ppm, Cl: 0.15 ppm, C: 14.50 ppm and S: 16.90 ppm as a non-metal content. Thus, the contents of Cl and S in Lam et al. are substantially outside the range as recited in applicants' claim 1. Further, the total impurity content in Table 1 of Lam et al. (31.58 ppm of impurities) far exceeds the level as

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recited in applicants' claim 1 (no more than 1 ppm).

The difference between 16.90 ppm S in Table 1 of Lam et al. and no more than 0.1 ppm S content recited in applicants' claim 1 is more than 169 times. The difference between the total impurity level in Table 1 of Lam et al. of 31.58 ppm non-metal and no more than 1 ppm in applicants' claim 1 is more than 31 times. Such differences are substantial, and indicate that the material in Table 1 of Lam et al. and the high-purity magnesium defined by applicants' claim 1 are substantially different materials.

Applicants have informed the undersigned that by using the process and apparatus disclosed by Lam et al., the low impurity levels recited in applicants' claim 1 could not be obtained. Accordingly, it is respectfully submitted that the high-purity magnesium of applicants' claim 1 is not obvious from the disclosure of Lam et al.

Claims 1 to 3 were rejected under 35 USC 103 as being unpatentable over Lam et al. in view of JP 10-121160 for the reasons set forth on page 3 of the Office Action.

Lam et al. was discussed hereinabove.

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JP 10-121160 discloses high-purity zinc in which the S and Cl contents are of a level of no more than 0.1 ppm, as shown in Table 1 therein. However, JP 10-121160 is silent with respect to magnesium metal.

In the Office Action it was stated that Lam's vacuum distillation process is also applicable to zinc, and that the S impurity in magnesium can be reduced to below 0.01 ppm, using the vacuum distillation process disclosed in JP 10-121160. Applicants have informed the undersigned that it is impossible to reduce the impurities in magnesium to below 1 ppm as recited in applicants' claims by the process or apparatus disclosed in JP 10-121160. The reasons for this reside in that the metal vapor is condensed on the inner surface of quartz tube 4 (see Fig. 1) and dropped below into recovery mold 6, and that if the vapor is magnesium, compounds of Mg and SiO_2 will be formed when the vapor contacts the quartz tube. Thus, the apparatus of JP 10-121160 cannot be applied to the vacuum distillation of magnesium. In JP 10-121160, S is not removed from the raw material, but the raw material (zinc raw material) primarily contains no S to be removed. Actually, the S

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content of the zinc raw material primarily is at a level of no more than 0.01 ppm.

It is respectfully submitted that there is no teaching or motivation in the two references to combine their disclosures.

Even assuming *arguendo* that the references are combined, it is respectfully submitted that the combination of the disclosures of both Lam et al. and of JP 10-121160 could not reach the process and apparatus disclosed in the present specification and drawings to make it possible to obtain the magnesium of applicants' claim 1. Accordingly, the high-purity magnesium of applicants' claim 1 is not obvious from the disclosures of Lam et al. in view of JP 10-121160.

It is therefore respectfully submitted that applicants' claims are not rendered obvious over the references, either singly or combined in the manner relied upon in the Office Action, in view of the many distinctions discussed hereinabove.

Reconsideration is requested. Allowance is solicited.

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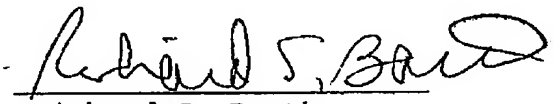
If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



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